

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

1. (Currently Amended) An image processing method for mapping an input color of an input color gamut to an output color of an output color gamut, said method comprising the steps of:

inputting an input color signal of the input color gamut, which includes a signal indicating brightness and a signal indicating tincture; and

mapping the signal indicating brightness and the signal indicating tincture on the basis of the input and output color gamuts,

wherin the mapping maps the signal indicating brightness using a mapping condition which is computed in accordance with highlight portions of the input and output color gamuts, and increases a degree of mapping of the highlight portion compared to middle lightness, and

wherein the mapping condition is given by a piecewise function.

2. (Canceled)

3. (Currently Amended) The method according to claim [2] 1, wherein the piecewise function uses a continuous spline function of first order or higher.

4. (Original) The method according to claim 1, wherein the mapping condition is computed in accordance with dark portions of the input and output color gamuts.

5. (Original) The method according to claim 1, wherein the mapping maps the signal indicating tincture using a mapping condition which is computed in accordance with high-saturation portions of the input and output color gamuts at a predetermined hue, and increases a degree of mapping of the high-saturation portion compared to a low-saturation portion.

6. (Original) The method according to claim 1, wherein the mapping condition is adjustable according to a user instruction.

7. (Currently Amended) An image processing method for mapping an input color of an input color gamut to an output color of an output color gamut, said method comprising the steps of:

inputting an input color signal of the input color gamut, which includes a signal indicating brightness and a signal indicating tincture; and

mapping the signal indicating brightness and the signal indicating tincture on the basis of the input and output color gamuts,

wherein the mapping maps the signal indicating tincture using a mapping condition which is computed in accordance with high-saturation portions of the

input and output color gamuts at a predetermined hue, and increases a degree of mapping of the high-saturation portion compared to a low-saturation portion, and wherein the mapping condition is given by a piecewise function.

8. (Cancelled)

9. (Currently Amended) The method according to claim [8] 7, wherein the piecewise function uses a continuous spline function of first order or higher.

10. (Original) The method according to claim 7, wherein the mapping condition is computed in accordance with high-saturation portions of the input and output color gamuts at a brightness and hue of the input color.

11. (Original) The method according to claim 7, wherein the mapping condition is adjustable according to a user instruction.

12. (Cancelled).

13. (Previously Presented) An image processing method for mapping an input color of an input color gamut to an output color of an output color gamut, said method comprising the steps of:

executing a first mapping process for the input color gamut in accordance with the input and output color gamuts; and

executing a second mapping process for a mapped color gamut obtained by the first mapping process in accordance with the mapped color gamut and output color gamut,

wherein the first mapping process is a process for compressing a color gamut, and the second mapping process is a process for expanding the color gamut.

14. (Original) The method according to claim 13, wherein the second mapping process performs a mapping process that pertains to brightness and then performs a mapping process that pertains to saturation.

15. (Original) The method according to claim 13, wherein the second mapping process performs the enlargement process in accordance with a limit value computed from the input color gamut.

16. (Previously Presented) The method according to claim 13, wherein the first mapping process maps the input color into the output color gamut by performing adjustment processes of lightness, hue, and saturation of an input color of the input color gamut.

17. (Currently Amended) A computer program product comprising a computer readable medium comprising computer program code, for an image processing method for mapping an input color of an input color gamut to an output color of an output color gamut, said method comprising the steps of:

inputting an input color signal of the input color gamut, which includes a signal indicating brightness and a signal indicating tincture; and mapping the signal indicating brightness and the signal indicating tincture on the basis of the input and output color gamuts, wherein the mapping maps the signal indicating brightness using a mapping condition which is computed in accordance with highlight portions of the input and output color gamuts, and increases a degree of mapping of the highlight portion compared to middle lightness, and wherein the mapping condition is given by a piecewise function.

18. (Currently Amended) A computer program product comprising a computer readable medium comprising computer program code, for an image processing method for mapping an input color of an input color gamut to an output color of an output color gamut, said method comprising the steps of:

inputting an input color signal of the input color gamut, which includes a signal indicating brightness and a signal indicating tincture; and mapping the signal indicating brightness and the signal indicating tincture on the basis of the input and output color gamuts, wherein the mapping maps the signal indicating tincture using a mapping condition which is computed in accordance with high-saturation portions of the input and output color gamuts at a predetermined hue, and increases a degree of mapping of the high-saturation portion compared to a low-saturation portion, and wherein the mapping condition is given by a piecewise function.

19. (Previously Presented) A computer program product comprising a computer readable medium comprising computer program code, for an image processing method for mapping an input color of an input color gamut to an output color of an output color gamut, said method comprising the steps of:

executing a first mapping process for the input color gamut in accordance with the input and output color gamuts; and

executing a second mapping process for a mapped color gamut obtained by the first mapping process in accordance with the mapped color gamut and output color gamut,

wherein the first mapping process is a process for compressing a color gamut, and the second mapping process is a process for expanding the color gamut.

20. (Currently Amended) An image processing apparatus for mapping an input color of an input color gamut to an output color of an output color gamut, comprising:

inputting section, arranged to input an input color signal of the input color gamut, which includes a signal indicating brightness and a signal indicating tincture; and

a mapping section, adapted to map the signal indicating brightness and the signal indicating tincture on the basis of the input and output color gamuts,

wherein the mapping maps the signal indicating brightness using a mapping condition which is computed in accordance with highlight portions of the input

and output color gamuts, and increases a degree of mapping of the highlight portion compared to middle lightness, and

wherein the mapping condition is given by a piecewise function.

21. (Currently Amended) An image processing apparatus for mapping an input color of an input color gamut to an output color of an output color gamut, comprising:

an inputting section, arranged to input an input color signal of the input color gamut, which includes a signal indicating brightness and a signal indicating tincture; and

mapping section, adapted to map the signal indicating brightness and the signal indicating tincture on the basis of the input and output color gamuts,

wherein the mapping maps the signal indicating tincture using a mapping condition which is computed in accordance with high-saturation portions of the input and output color gamuts at a predetermined hue, and increases a degree of mapping of the high-saturation portion compared to a low-saturation portion, and

wherein the mapping condition is given by a piecewise function.

22. (Previously Presented) An image processing apparatus for mapping an input color of an input color gamut to an output color of an output color gamut, comprising:

a first mapping section, adapted to execute a first mapping process for the input color gamut in accordance with the input and output color gamuts; and

a second mapping section, adapted to execute a second mapping process for a mapped color gamut obtained by the first mapping process in accordance with the mapped color gamut and output color gamut,

wherein the first mapping process is a process for compressing a color gamut, and the second mapping process is a process for expanding the color gamut.